

Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of the Claims:

1. (currently amended) A method of assembling an exhaust gas recirculation valve, comprising the steps of

providing a base having a fluid conduit extending between first and second ports, a valve member disposed within the fluid conduit, and a valve shaft having a first end fixed to the valve member and a second end defining a longitudinal axis, and a spring extending between first and second cups, the first cup transferring inwardly toward the longitudinal axis a biasing force to the valve shaft, the second cup transferring inwardly toward the longitudinal axis a reaction force of the spring to the base, and the second cup being oriented in a direction opposite the first cup;

providing a gasket between the base and the second cup, wherein the second cup is spaced from the gasket; and

mounting a linear actuator with rotary motor to the base, the actuator including a displaceable member having an end that is decoupled from the valve shaft and wherein the member's end is engaged with the valve shaft when the valve is configured in an open position.

2. (original) The method of claim 1, wherein the mounting step includes disposing the member's end and valve shaft in a spaced relationship.

3-4 (canceled)

5. (previously presented) The method of claim 1, further including the step of providing a passageway within the base and receiving the valve shaft within the passageway, the passageway having a first opening facing the actuator and a second opening facing the valve member, locating a bearing within the passageway, positioning the second cup at the first opening.

6. (original) The method of claim 5, wherein the mounting step includes the step of positioning an end of the displaceable member in proximity of the second end of the valve shaft so that the member's end is brought in contact with the shaft second end.

7. (original) The method of claim 6, wherein the providing step further includes forming a curved surface at the shaft second end.

8. (original) The method of claim 7, further including the step of disposing a disc-shaped member at the end of the displaceable member.

9. (currently amended) A method for operating an EGR valve, comprising the steps of:

providing a base, a valve portion disposed within the base including a valve member engaged with a valve seat when the valve portion is in a closed position, a valve stem having a longitudinal axis, a first end secured to the valve member and a second end, and a spring that biases the valve member into engagement with the valve seat, the spring extending between first and second cups, the first cup transferring inwardly toward the longitudinal axis a biasing force to the valve stem, the second cup transferring inwardly toward the longitudinal axis a reaction

force of the spring to the base, and the second cup being oriented in a direction opposite the first cup;

providing a gasket between the base and the second cup, wherein the second cup is spaced from the gasket;

providing a linear actuator including a rotary motor and a displaceable member coupled to the motor's rotor, wherein the rotation axis of the rotor is substantially parallel to the longitudinal axis; and

opening the valve including pushing the displaceable member into the valve stem second end.

10. (original) The method of claim 9, wherein the rotation axis is approximately parallel to the longitudinal axis.

11. (original) The method of claim 9, wherein the pushing step includes pushing a disc-shaped member disposed at the end of the displaceable member into a curved shaped surface formed at the valve stem second end.

12. (original) The method of claim 9, wherein the spring is a linear spring.

13. (original) The method of claim 12, further including the step of disposing the spring between the valve member and the actuator.

14 (canceled)

15. (currently amended) A method of closing an EGR valve, comprising the steps of:
providing a linear actuator having a rotary motor;

providing a base, a valve member disposed within the base and being engaged with a valve seat when the valve is closed and the valve member being linearly displaced from the valve seat when configured from a closed to an open position, a valve stem coupled to the valve member and having a longitudinal axis, and the rotor axis of rotation is substantially parallel to a longitudinal axis;

providing a spring disposed below the actuator wherein the spring is compressed when the valve is open, the spring extending between first and second cups, the first cup transferring inwardly toward the longitudinal axis a biasing force to the valve stem, the second cup transferring inwardly toward the longitudinal axis a reaction force of the spring to the base, and the second cup being oriented in a direction opposite the first cup;

providing a gasket between the base and the second cup, wherein the second cup is spaced from the gasket; and

upon power loss to the motor, closing the valve including expanding the compressed spring.

16. (original) The method of claim 15, wherein the providing a linear actuator step includes providing a motor having a constant rotor rate.

17. (original) The method of claim 16, wherein the motor is a synchronous motor.

18. (canceled)

19. (currently amended) The method of ~~claim 18~~ claim 15, wherein the spring is a linear spring.

20. (original) The method of claim 19, further including the step of disposing the spring between the valve member and the actuator.

21-29 (canceled)